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Title : Impact of boat traffic on bottlenose dolphins in Core Creek, North Carolina

Category : Behavior

Student :

Preferred Format : Oral Presentation

Abstract : A land-based theodolite study was conducted from June 27 through August 20, 2001, to examine the response of dolphins to vessel traffic in Core Creek, NC. The Intracoastal Waterway (ICW), which connects inland waters to the Atlantic Ocean, comprised a large proportion of the study site. Although high concentrations of vessels use this channel, the ICW also provides important habitat for dolphins. Dolphin and boat presence and activities were monitored to determine changes in distribution and behavior. Groups of animals were displaced from the ICW when transiting boats passed through the study site ($KW \chi^2 = 15.34$, $p = 0.0025$). Dolphins changed direction least when multiple boat activities occurred while animals altered their heading most when no boats were present ($KW \chi^2 = 7.45$, $p = 0.0065$). Differences in the directness of groups travel path were seen among various categories of vessel traffic ($KW \chi^2 = 14.47$, $p = 0.023$). Pairs of mothers and calves were closely associated when vessels were present; pairs were farther apart when no boats were in the study site, although this difference was not significant ($KW \chi^2 = 7.48$, $p = 0.008$; $KW \chi^2 = 10.21$, $p > 0.25$). Results of this study indicate that boat traffic can significantly influence the distribution and behavior of dolphins in Core Creek. The same might be true in other similar areas. I developed policy recommendations to reduce impact of vessel traffic on bottlenose dolphins and to enhance the dolphin-watch industry. Suggestions include: 1) Establishment of a regional ecotour operators association, 2) Development of a dolphin-watch certification program, 3) Promotion of land-based operations, and 4) Integration of naturalists and researchers into daily operations of dolphin-watches.